

APPENDIX C
Action Memorandum



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105**

MEMORANDUM

SUBJECT: Request for a Time-Critical Removal Action at the Anaconda Yerington Mine Site, Yerington, Lyon County, Nevada

FROM: Tom Dunkelman, On-Scene Coordinator
Emergency Response Section (SFD-9-2)

TO: Daniel Meer, Assistant Director (SFD-9)
Response, Planning and Assessment Branch

THROUGH: Harry Allen, Chief
Emergency Response Section (SFD-9-2)

I. PURPOSE

The purpose of this memorandum is to request and document approval for a response action to incur direct extramural costs of up to \$840,000.

The proposed response action would mitigate threats to human health and the environment posed by the presence of heavy metals and corrosive liquids at the Anaconda Copper Site, near the City of Yerington, in Lyon County, Nevada (the "Site"). The response action proposed in this memorandum would address the management of certain heap leach fluid ponds and ditches that pose a substantial threat to the public health and welfare and the environment, particularly including relining the Vat Leach Tailings ("VLT") pond and conducting repairs to certain segments of the heap leach perimeter ditches. Information, discussed below, suggests that the fluids from the VLT pond are leaking to the subsurface, and risk overflowing to create broad surface exposures to highly acidic liquids. EPA has addressed other leach fluid ponds and portions of the perimeter ditch system in previous removal actions, but the VLT pond and these specific sections of the perimeter ditch system have not been previously addressed. EPA anticipates agreements with Atlantic Richfield Company ("ARC") and Singatse Peak Services ("SPS") will reimburse EPA's direct extramural costs incurred in this response, as discussed in the included Enforcement Section of this memorandum.

Conditions presently exist at the Site that, if not addressed by implementing the response action documented in this memorandum, may lead to continued off-Site migration and the release of contaminants, primarily low pH (extremely acidic) liquids and metals such as aluminum, arsenic, barium, beryllium, cadmium, chromium, cobalt,

copper, iron, magnesium, manganese, nickel, selenium, nickel, vanadium, and zinc. Other hazardous substances that would be subject to the proposed response action include radio-nuclides such as uranium, radium and thorium. As discussed in this memorandum, all of these hazardous substances, if unaddressed, may pose an imminent and substantial endangerment to the public health or welfare or the environment.

The proposed response to the hazardous substances is consistent with removal activities authorized pursuant to Section 104(a) of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9604(a), and Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP"), 40 C.F.R. § 300.415. This response action also incorporates Site investigation activities also authorized by Section 104(a) and (b) of CERCLA, 42 U.S.C. § 9604(a) and (b).

II. SITE CONDITIONS AND BACKGROUND

Site Status: Non-NPL
Category of Removal: Emergency/Time-Critical
CERCLIS ID: NVD083917252
SITE ID: SSID#09GU (OU8)

A. Site Description

1. Physical location

The Site is located approximately two miles west of Yerington, Nevada, directly off of Highway 95, at 102 Burch Drive. The Site includes portions of Township 13N, Range 25E, Sections 4, 5, 8, 9, 16, 17, 20, and 21 (Mount Diablo Baseline and Meridian) on the Mason Valley and Yerington USGS 7.5 minute quadrangles. The geographic coordinates are 38° 59' 53.06" North latitude and 119° 11' 57.46" West longitude. The Site occupies 3,468.50 acres of disturbed land in a rural area, bordered to the north by open agricultural fields and residential acreage, and to the east by Highway 95A, which separates the Site from the city of Yerington. Approximately fifty percent of the Site is privately owned by SPS, and the rest is land within the jurisdiction, custody and control of the United States Department of the Interior, Bureau of Land Management ("BLM"). To the south continues federal range land, and to the west and southwest the federally owned Singatse mountains. The community of Weed Heights is located adjacent to the Site, near the western edge of the Yerington Pit.

2. Site characteristics

Facilities associated with copper mining operations at the Site include an open-pit mine, mill buildings, tailing piles, waste fluid ponds, and the adjacent residential settlement known as Weed Heights. A network of leach vats, heap leaching pads and

evaporation ponds remain throughout the Site, in addition to a lead working shop, a welding shop, a maintenance shop, two warehouses, an electro-winning plant, and an office building.

The Site began operation in or about 1918, originally known as the Empire Nevada Mine. In 1953, Anaconda Minerals Company ("Anaconda") acquired and began operating the Site. In or about 1977, ARC acquired Anaconda and assumed its operations at the Site. In June 1978, ARC terminated operations at the Site. In or about 1982, ARC sold its interests in the private lands within the Site to Don Tibbals, a local resident, who subsequently sold his interests with the exception of the Weed Heights community to Arimetco, Inc. ("Arimetco"). From 1989 to November 1999, Arimetco operated a copper recovery operation from existing leach heaps within the Site and ore from the McArthur Pit. Thereafter, Arimetco terminated operations at the Site and petitioned for the protection of the United States Bankruptcy Court in Tucson, Arizona. In 2011, SPS acquired Arimetco's property through the bankruptcy court.

At respective times, ARC, Anaconda and Arimetco operated heap leaching facilities on the Site. Arimetco constructed the heap leaching facilities that currently are within the Site, which include several massive heaps that remain pregnant with low pH solution that leaches metals into a fluid recovery system comprised of pipes, canals and ponds. As discussed further herein, drawdown of the heap fluid into the ponds threatens to release acidic solutions into the environment.

3. Site evaluation

In October 2000, EPA conducted an Expanded Site Inspection at the Site, which consisted of collecting ground water samples from six monitoring wells on and around the Site, and samples of standing water from a below ground cellar, pregnant leachate solution, tailings and leachate salts. These samples confirmed high concentrations of contaminants (Ecology and Environment, Expanded Site Investigation, 12/14/2000, Table 3-1), including beryllium, cadmium, chromium, lead, mercury, and selenium. The groundwater monitoring well samples revealed levels above the regulatory limits for drinking water for arsenic, beryllium, cadmium, chromium, lead, and selenium. EPA concluded from this study that toxic heavy metals exist in source materials at the Site and have contaminated groundwater. The local groundwater is the sole source of drinking water for approximately 3,000 people living within four miles of the Site.

From August to October 2006, EPA conducted a removal action to address fluids management issues associated with the Arimetco heap leach system. This removal action included relining the Slot Pond, construction of a Megapond Interceptor Trench, and construction of a new Evaporation Pond. Fluids in the heap leach system exhibit very low pH and elevated metals, and pose potentially acute toxicity to wildlife.

From October to November 2007, EPA conducted a removal action to address

fluids management issues associated with the "Bathtub Pond." This removal action included the removal of sediments and the liner from the pond, the backfilling and grading the pond, and the construction of an Interceptor trench along the shoulder of the pond.

During the fall of 2007, EPA collected another eight fluid samples, with either one or two samples obtained from each of the six Arimetco leach heap ponds/ditches. These data generally show a low pH consistent throughout the system (ranged from 1.9 to 2.8) and specific conductance ranging from 31,000 to 45,000 μmhos per centimeter ($\mu\text{mhos/cm}$). Metals that exceed primary or secondary drinking water maximum contaminant levels ("MCLs") include aluminum, antimony, arsenic, beryllium, boron, cadmium, chromium, copper, iron, lead, manganese, mercury, thallium and zinc. Radiological data are currently under review but generally exceed the MCLs for thorium isotopes 228, 230, and 232; uranium isotopes 234, 235, and 238; and gross alpha particles. TPH values range from 750 to 2,100 $\mu\text{g/L}$, which exceeds Nevada cleanup requirements of 1,000 $\mu\text{g/L}$.

From September to October 2008, EPA conducted another removal action to address fluids management issues. This included closure of the following ponds: South Slot Pond, Plant Feed Pond, New Raffinate Pond, Old Raffinate Pond and MegaPond. The liner of the Phase I/II Pond was replaced. Repairs were also made to the VLT Pond liner. EPA also excavated approximately 10,000 cubic yards of kerosene contaminated soil present beneath the Raffinate Ponds and Vaults, and placed this material in bioremediation cells present on top of the Slot Heap. In addition, EPA made repairs and upgrades to the perimeter ditches surrounding the heap leach pads.

Between May 11, 2010 and September 9, 2010, EPA conducted removal actions that included conducting a repair to the heap leach fluids management system in the vicinity of Slot Pond #1 and the performance of an evaporation pilot test at the EPA 4-acre evaporation pond.

4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

EPA confirmed that over 3,000 acres of tailings with a potentially high concentrations of metals remain at the Site, and that the abandoned process fluids emanating from the tailings have a low pH and contain excessive quantities of arsenic, cadmium, chromium, copper, and iron, as described above in Section II.A.3 of this memorandum. Salts precipitating from these fluids contain even higher concentrations of such metals and are filling in available space within the fluid pond system. Also present are radionuclides, including uranium, thorium, and radium. Exposure to the tailings fluids and salts may occur to workers at the Site, trespassers and, as demonstrated by dead birds at the Site, wildlife. The deteriorated conditions of the VLT pond and the perimeter ditches subject to

the response action proposed in this memorandum may lead to a release of these hazardous substances into the environment with the additional volume of winter precipitation.

5. National Priorities List ("NPL") status

The Site is not currently on the NPL. EPA requested the State's position for listing on December 19, 2000. On January 25, 2001, the Governor of Nevada objected to the listing and requested that EPA defer listing. Despite not listing Site, EPA has continued to address the most immediate concerns at the Site through fund lead and enforcement lead removal actions, such as recommended in this memorandum, while advancing the remedial process through ongoing investigations and feasibility study work until such time as listing the Site becomes a necessary consideration in further response work at the Site.

B. Other Actions to Date

1. Potentially Responsible Party Actions

Effective May 1, 2009, EPA entered into an Administrative Order on Consent ("AOC") with ARC by which ARC agreed to conduct several removal actions at the Site, including the capping of evaporation ponds, assessment and removal of radiological material from the process area, removal of transite pipe, addressing electrical hazards at the Site, and conducting certain operation and maintenance of the fluids management. This AOC, along with two previous cost recovery agreements, also provided reimbursement of certain response costs that the EPA had incurred at the Site.

The removal actions in this AOC built from and continued previous response actions conducted by ARC, including initiating remedial investigation activities, monitoring, data collection and maintenance activities. ARC's obligations for previous response actions can be found in: (1) the 1985 NDEP Administrative Order to Anaconda Minerals Company; (2) the March 28, 2002 Memorandum of Understanding between NDEP, EPA and BLM and the associated Scope of Work; (3) the October 24, 2002 Administrative Order on Consent between NDEP and ARC; (4) the March 31, 2004 Unilateral Administrative Order from EPA; and (5) the January 12, 2007 Unilateral Administrative Order from EPA. However, none of these actions require ARC to maintain the integrity of the Arimetco fluid management system, and ARC has asserted that it is not liable for any contamination from Arimetco operations.

2. EPA Actions

EPA completed a remedial investigation of the Arimetco Heap Leach Pads. The results of this remedial investigation are currently stated in the "Draft Remedial

Investigation Report, Arimetco Facilities Operable Unit 8," dated June 2008. As stated above, EPA has conducted several removal assessments and four previous removal actions, several of which have been focused on the Arimetco fluid management system.

C. State and Local Authorities' Roles

1. State and local actions to date

Arimetco, which operated heap leach facilities at the Site from 1989 to 2000, was issued a Finding of Alleged Violation and Order by NDEP on September 23, 2002, as a result of Arimetco seeking bankruptcy protection and abandoning the electro-winning fluids and related materials. On October 23, 2002, NDEP issued a notice of Arimetco's failure to comply with the Order and subsequently, through NDEP's contractor, SRK Consultants, took over response actions at the Site. NDEP's response actions began in January 2003 and concluded in July 2003, removing the abandoned materials and fluids associated with Arimetco's electro-winning operation. The project was funded by the state of Nevada, which was reimbursed by ARC.

In October 2002, NDEP took responsibility for the Arimetco heap leach fluid management activities to prevent the overflow of fluids from the heaps. EPA's March 31, 2005 Unilateral Administrative Order directed ARC to maintain those activities, but did not specifically require ARC to prevent discharges to ground water from the Arimetco system.

2. Potential for continued state/local response

Neither state nor local agencies have committed the resources to either continue the Arimetco heap leach water management activities and related costs, or to undertake the required response action at this time. In 2004, NDEP formally requested that EPA assume the lead role for the Site because the Site conditions became too complex.

Regardless, EPA may request that other state and local response organizations assist and coordinate within the response for necessary tasks within their respective domains, such as traffic planning, community relations, and logistical support. EPA recognizes, however, that their financial ability to contribute more to the response will be limited.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Conditions at the Site represent a release, and potential threat of release, of CERCLA hazardous substances threatening the public health, or welfare, or the environment based on the factors set forth in the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP"), 40 C.F.R. § 300.415(b)(2). These factors include:

A. Actual or potential exposure to nearby populations, animals or the food chain from hazardous substances or pollutants or contaminants

Although EPA has previously taken action to address releases of hazardous substances from the fluids management system, this system has continued to degrade, and ongoing releases may presently be occurring. The VLT pond liners and liners associated with the perimeter ditch system are approximately 20 years old and have been severely degraded from exposure to sun and wind. The VLT pond currently has a double liner with leak detection. In February 2012, the volume of fluid reporting to the leak detector increased dramatically, indicating that a leak exists in the top liner. There is no leak detection system associated with the bottom liner, so it is not possible to evaluate the integrity of the bottom liner. The fluid level in this pond was lowered in order to minimize this leakage. However, reducing the pond level also reduced the amount of available fluids storage. In addition, there are several areas of the perimeter ditches that are in need of repair. Due to the deteriorated condition of these liners, releases of hazardous substances may currently be ongoing. These releases will increase with continued degradation if no action is taken. Releases of acidic and metals-contaminated liquids from the VLT pond and perimeter ditches could potentially impact drinking water supplies and the irrigation of crops grown adjacent to the Site.

B. Actual or potential contamination of drinking water supplies

Although EPA has previously taken action to address releases of hazardous substances from the fluids management system, this system has continued to degrade and ongoing releases may presently be occurring. Liners at the VLT pond and at several locations within the heap leach perimeter ditch system are severely deteriorated and releases of hazardous substances may currently be ongoing. These releases will increase significantly with continued degradation of the liners and with increased precipitation during the winter months if no action is taken. Releases of acidic and metals-contaminated liquids from the ponds could potentially impact drinking water supplies and irrigation of crops grown adjacent to the Site.

C. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate

The threat of migration for hazardous substances from these ponds, as considered in this memorandum, is primarily a discharge to groundwater through the deteriorated liners. Threats from surface soils are not the subject of this memorandum

D. Weather conditions may cause hazardous substances or pollutants or contaminants to migrate or be released

The Site is located in an area of Nevada that receives significant precipitation in

the winter. In addition, this area is characterized by extremely variable winds with high velocities throughout much of the year. Temperature extremes and high wind events have contributed to failure of the pond and ditch liners. During the winter months, increased precipitation causes the liquid level to rise within these ponds. Rising liquid levels will provide additional hydraulic head to facilitate migration of hazardous substances through the compromised liners. Further exposure of the liners to wind, sun and rain causes more deterioration, and thereby exacerbates the threat of release. As a result, a release of hazardous substances may currently be ongoing, and will get worse with additional time.

E. Threat of fire or explosion

The threat of migration for hazardous substances from these ponds and ditches, as considered in this memorandum, is primarily a discharge to groundwater through the deteriorated liners. Threats at the Site from fire or explosion are not the subject of this memorandum.

F. Availability of other appropriate federal or state response mechanisms to respond to the release

No other appropriate federal, local or state public funding source has been identified. The proposed action exceeds the financial capability of the State Emergency Reserve Account.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present a release or substantial threat of release of hazardous substances into the environment that are appropriate for response actions as authorized by Section 104(a) of CERCLA, 42 U.S.C. § 9604(a).

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description

EPA will conduct the following activities, as part of this removal action:

Vat Leach Tailings (VLT) POND - Re-lining the VLT Pond with a new double liner system will require that it be emptied prior to performing the work. The fluids will either be transferred to the Fluid Management System (FMS) Evaporation Pond and/or VLT Sediment Pond or pumped to the top of the VLT HLP, depending on storage capacity available. The existing primary liner will then be removed and the leak detection and

secondary liner system will be inspected to determine their condition. Three alternatives for the liner replacement are envisioned subject to further confirmation of the liner condition upon demolition of primary liner and geonet:

- Secondary Liner to Remain as Secondary Containment Liner System - Inspect, repair liner to remain as the secondary containment system. Install new geonet then primary liner on top of repaired secondary liner. The largest concern with this alternative is existing condition, construction approach and QA/QC protocol to confirm the secondary liner integrity.
- Secondary Liner to Remain as Subgrade Protection Liner: Secondary liner to be salvaged as a non-containment protection layer to existing compacted subgrade and bed for new liner materials. Install new secondary liner directly on remaining existing secondary liner, install new geonet and primary liner. New leak detection sump would be side slope riser, existing leak detection could remain in diminished capacity for remaining existing liner or abandoned entirely.
- Demolish Secondary liner: Demolish secondary liner in entirety, scarify and recompact subgrade, install new secondary liner, geonet and primary liner.

These alternatives would be consistent with Nevada Administrative Code (NAC) 445A.435 minimum design criteria for ponds and 445A.438 minimum design criteria for liner and would incorporate a 60-mil HDPE double liner system with leak detection.

PERIMETER DITCH REPAIRS - The discrete sections of the HLP perimeter ditches in need of repair are summarized below, and are shown as Areas 1 through 4 on Figure 1:

- North Slot Pond Ditch (Area 1)
- Phase III South Mega Sump Perimeter Ditch (Area 2)
- Phase III North Mega Sump Perimeter Ditch (Area 3)
- Phase IV Drainage Weir (Area 4)

The scope of work for the perimeter ditch repairs at Areas 1-4 are described below. In all cases excavation work in the vicinity of the toe of the HLPs should be limited so as to not affect the stability of the HLP sides.

Phase IV Slot HLP North Ditch (Area 1)

This area consists of two components. The first component would be to repair tears and holes to the existing HDPE liner at the western boundary of Area 1. These repairs would eliminate the potential for loss of fluid containment and reduce the possibility for ongoing damage from wind catching holes in the perimeter ditch HDPE.

The second component of Area 1 repairs includes repairs to a length of perimeter ditch beginning approximately 500 feet west of the northeast pad corner extending

downstream for approximately 700 feet toward the Slot Sediment Pond. The repairs would include removal of precipitates, inspection and repair of visibly damaged liner areas and installation of perforated HDPE pipe, non-woven geotextile, and 6-inch rock/gravel cover over perimeter ditch liner.

Phase III South HLP – Ditch Section South of Former Mega Pond (Area 2)

Repair approximately 150 to 200 foot section of visibly damaged perimeter collection liner. The repair approach would be a labor intensive manual effort to best re-establish the flow within the ditch on a liner patch shingled under the existing liner towards the existing heap leach pad side. The liner would be anchored to perimeter ditch side as determined by field conditions (anchor trench versus welding to remaining portion of anchored existing liner). The repair would include installation of perforated HDPE collection pipe, non-woven geotextile and gravel/rock cover over repaired liner section.

Phase III South HLP – Ditch Section North of Former Mega Pond (Area 3)

Inspect and patch visibly damaged liner areas. Provide perforated HDPE drain pipe, non-woven geotextile and 6-inch gravel/rock cover to preserve exposed perimeter drain liner. If the Phase III 4X repiping is completed the extent of this repair could be limited to extend from North Mega sump and terminate at visible active Phase III collection points of copper sulfate emanating from Phase III HLP.

Phase III 4X HLP – Ditch Sections, Sump and Weir (Area 4)

The work in this area would repair tears and holes in the perimeter ditch above the weir and restore positive drainage above and below the weir that result in ponded fluids and the localized precipitation of mineral salts between two leak detectors. This would include reconstruction of the weir and area immediately in front of weir (approximately 10' by 10' area) to improve drainage into 4-inch drain line penetrating weir. A bypass would be established, the liner and sump above the weir and the liner below the weir would be removed, the ditch alignment would be re-graded and the sub-grade re-established where required, and the repaired sections would be re-lined. These repairs are anticipated to improve flow conditions during high precipitation periods and reduce the volume of fluids that currently report to the leak detector system.

A potential alternative that will be evaluated includes making these weir improvements and rerouting the existing drain line at the weir to the FMS system directly below the weir. The potential improvement is to provide better pipe drainage capacity and potentially decommission the existing interconnecting Phase III 4X connector ditch and limiting the Phase III North Mega Sump repair to the remaining active perimeter collection ditch only.

2. Contribution to remedial performance

Long term remedial action at this Site is anticipated. The response actions considered in this memorandum are expected to be consistent with future actions typical

at large scale mine sites, although no final remedial action is yet determined for this Site.

The long-term cleanup plan for the Site:

The work performed under this removal action is intended to be consistent with long-term clean-up plans for the Site. Final reporting of this removal action will be provided for consideration in any further cleanup activities.

Threats that will require attention prior to the start of a long-term cleanup:

The removal action proposed in this memorandum addresses threats requiring attention prior to the start of a long-term cleanup because it addresses immediate threats from specific or acute sources of contamination, and clear the way to address potential pervasive surface and subsurface contamination.

The extent to which the removal will ensure that threats are adequately abated:

By conducting the actions described above, this removal action will reduce the ongoing release of hazardous substances.

Consistency with the long-term remedy:

This removal action should be consistent with the long-term remedy for the Site. Although a long-term remedy has not yet been determined, any likely remediation of the Site will benefit from improvements to the leach heap fluid management system as anticipated in this memorandum.

EPA has begun planning for the provision of post-removal Site control, consistent with the provisions of § 300.415(k) of the NCP. Any future owner likely will have obligations to protect the integrity of completed removal actions and thereby provide post-removal Site controls. The nature of the removal proposed in this memorandum is, however, expected to minimize the need for post-removal Site activities until a final response strategy may be determined.

3. Description of alternative technologies

Alternative technologies are not appropriate for this removal action.

4. Applicable or relevant and appropriate requirements (ARARs)

Section 300.415(j) of the NCP provides that removal actions must attain ARARs to the extent practicable, considering the exigencies of the situation.

Section 300.5 of the NCP defines applicable requirements as cleanup standards, standards of control, and other substantive environmental protection requirements,

criteria or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location or other circumstances at a CERCLA site.

Section 300.5 of the NCP defines relevant and appropriate requirements as cleanup standards, standards of control and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, or contaminant, remedial action, location, or other circumstances at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site and are well-suited to the particular Site.

Because CERCLA on-site response actions do not require permitting, only substantive requirements are considered as possible ARARs. Administrative requirements such as approval of, or consultation with administrative bodies, issuance of permits, documentation, reporting, record keeping and enforcement are not ARARs for the CERCLA response actions confined to the Site.

The following ARARs have been identified for the proposed response action. All can be attained.

Federal ARARs: Potential federal ARARs may include the RCRA Land Disposal Restrictions, 40 C.F.R. § 268.40 Subpart D; the CERCLA Off-Site Disposal Restrictions, 40 C.F.R. § 300.440; the Clean Water Act Pre-treatment Standards for New Sources, 40 C.F.R. Part 433.17, TSCA

State ARARs: Nevada Administrative Code, Chapter 444 applies to Class III industrial landfills, such as proposed for on-Site disposal of construction debris. EPA would consider any relevant requirements in the actual design and construction of any construction debris landfill. NAC 445A.435 and 445A.438 specific minimum design criteria for ponds and liners.

5. Project schedule

The removal action is anticipated to start after the approval of the action as indicated by the signature on this memorandum. The removal activities will require approximately two months to complete.

B. Estimated Costs

Cost estimates are based on existing Emergency and Rapid Remedial Response Services (ERRS) rates for the EPA Region 9 contracts.

Extramural Costs

Regional Removal Allowance Costs

Cleanup Contractor (ERRS)	\$660,000
TOTAL, Removal Action Project Ceiling	\$660,000
START Contract Costs	\$ 40,000
Extramural Cost Contingency (20%)	\$140,000
TOTAL, Extramural Costs	\$840,000

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Given the Site conditions, the nature of the hazardous substances documented on-Site and the potential exposure pathways to nearby populations described in Sections III and IV above, actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response actions selected in this memorandum, present a release or substantial threat of release of hazardous substances into the environment. If no action is taken, the liners in the VLT pond and perimeter ditches will continue to deteriorate, thereby allowing low pH and metal-bearing fluids in the VLT pond and in the perimeter ditches to be released to the subsurface. Release of these fluids to the subsurface will likely contribute to groundwater contamination.

VII. OUTSTANDING POLICY ISSUES

Much of the land subject to the proposed removal action is on federal land within the jurisdiction, custody and control of the BLM. Pursuant to Executive Order 12580(g), EPA maintains delegated authority to conduct response actions in accordance with Section 104(a) of CERCLA, including for emergency actions on federal land within the jurisdiction, custody and control of another federal agency. BLM also is delegated authority to conduct non-emergency response actions on federal land within its jurisdiction, custody and control, where the site is not on the NPL. Because this time-critical removal action is intended to address emergency conditions, EPA is within its delegated authority to conduct the action. Nonetheless, EPA is coordinating the anticipated response action with BLM.

VIII. ENFORCEMENT

Please see the attached Confidential Enforcement Addendum for a discussion regarding potentially responsible parties and enforcement. In addition to any extramural

costs estimated for the proposed action, a cost recovery enforcement action also may recover the following intramural costs:

Intramural Costs¹

U.S. EPA Direct Costs	
Intramural	\$ 25,000
Extramural (from above)	\$ 840,000
U.S. EPA Indirect Costs	
(36.19% of Direct Costs(\$865,000))	<u>\$ 313,043</u>
TOTAL Costs	\$1,178,043

The total EPA extramural and intramural costs for this removal action, based on full-cost accounting practices, that will be eligible for cost recovery, are estimated to be \$1,178,043.

(Recommendation and signature on following page.)

1. Direct costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual costs from this estimate will affect the United States' right to cost recovery.

IX. RECOMMENDATION

This memorandum proposes a removal action for addressing certain fluids management issues at the Anaconda Yerington Mine Site, Yerington, Lyon County, Nevada, as developed in accordance with CERCLA and not inconsistent with the NCP. This decision is based on the Administrative Record for the Site. Because conditions at the Site meet the NCP criteria for a time-critical removal, I recommend that you concur on the determination of imminent and substantial endangerment, the proposed removal action and the anticipated intramural and extramural direct costs of \$1,178,043, of which EPA anticipates full recovery of its direct extramural costs, anticipated to be up to \$840,000. Your approval below will establish as agency action the determination of the imminent and substantial endangerment and the selection of the response action.

Approve: _____


Daniel A. Meer, Assistant Director
Superfund Division

8 June 2012

Date

Disapprove: _____

Daniel A. Meer, Assistant Director
Superfund Division

Date

Attachments

Index to the Administrative Record
Confidential Enforcement Addendum

Appendices

1. Site Plan
2. Heap Leach Pad Perimeter Ditch Locations

cc: Colleen Cripps, Administrator, Nevada Division of Environmental Protection
Bob Kelso, Department of the Interior, Bureau of Land Management
Jack Oman, ARC
S. Fielding, USEPA

bcc: Site File
A. Helmlinger, ORC-3
T. Dunkelman, SFD-9-2
D. Seter, SFD-8-2
N. Hollan Burke, SFD-8-2
B. Lee, SFD-9-4
Steffanie Wood, PMD-8
C. Temple, SFD-9-4

AMINISTRATIVE RECORD INDEX

Doc_date	Author	Addressee	Title_subject	DocId
3/31/2005	Environmental Protection Agency - Region 9	-	Unilateral administrative order #9-2005-0011 for initial response activities (Privileged, FOIA exs 5 & 7)	2077062
12/2/2005	Tom Dunkelman / Environmental Protection Agency - Region 9	Kathleen Johnson / Environmental Protection Agency - Region 9	Action Memo: Request for time-critical removal action at site (enforcement confidential addendum only) (Privileged document target only)	2085758
12/2/2005	James Sickles / Environmental Protection Agency - Region 9 Tom Dunkelman / Environmental Protection Agency - Region 9	Kathleen Johnson / Environmental Protection Agency - Region 9	Action Memo: Request for a time-critical removal action at site, w/o enforcement confidential addendum	2133414
8/10/2008	Tom Dunkelman / Environmental Protection Agency - Region 9	Keith Takata / Environmental Protection Agency - Region 9	(Privileged, FOIA ex 7) Memo: Request for an exemption from \$2,000,000 statutory limit & request for time-critical removal action (enforcement addendum only) (Privileged document target only)	2133434
8/10/2008	Tom Dunkelman / Environmental Protection Agency - Region 9	Keith Takata / Environmental Protection Agency - Region 9	Action Memo: Request for exemption fr \$2,000,000 statutory limit & request for time-critical removal action w/o enforcement addendum	2133432
1/12/2007	Environmental Protection Agency - Region 9	-	Administrative order #2007- 05 for RI/FS, w/attchs 1 & 2	2116773
9/28/2007	Tom Dunkelman / Environmental Protection Agency - Region 9	Keith Takata / Environmental Protection Agency - Region 9	(Privileged, FOIA ex 7) Action Memo: Request for time-critical removal action at site (enforcement confidential addendum only) (Privileged document target only)	2138931
9/28/2007	Tom Dunkelman / Environmental Protection Agency - Region 9	Keith Takata / Environmental Protection Agency - Region 9	Action Memo: Request for time-critical removal action at site, w/o enforcement confidential addendum	2133411

11/20/2007	Environmental Protection Agency - Region 9	-	List of US EPA guidance documents consulted during development & selection of response action for site	2139497
	Environmental Protection Agency - Region 9	Atlantic Richfield Co	Fluids management system standard operating procedures	2133415
5/28/2008	Mike Schwennesen, START Team 9	Tom Dunkelman / Environmental Protection Agency	Anaconda Ponds Assessment Report	2163309
8/5/2008	Tom Dunkelman / Environmental Protection Agency - Region 9	Keith Takata / Environmental Protection Agency - Region 9	(Privileged, FOIA ex 7) Action Memo: Request for time-critical removal action at site (enforcement confidential addendum only) (Privileged document target only)	
8/5/2008	Tom Dunkelman / Environmental Protection Agency - Region 9	Keith Takata / Environmental Protection Agency - Region 9	Action Memo: Request for time-critical removal action at site, w/o enforcement confidential addendum Administrative Order On Consent	

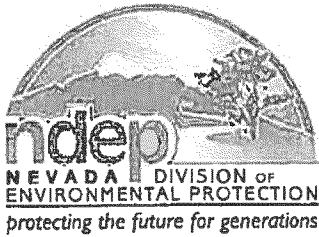
Figure 1
Appendix 1
Site Plan
Anaconda Yerington Mine Site
August 2006

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APPENDIX D

Reasonable Steps Letter



STATE OF NEVADA

Department of Conservation & Natural Resources
DIVISION OF ENVIRONMENTAL PROTECTION

Jim Gibbons, Governor

Allen Biaggi, Director

Leo M. Drozdoff, P.E., Administrator

October 5, 2009

Carla Consoli, esq.
Lewis & Roca
40 North Central, Suite 1900
Phoenix, Arizona 85004

Re: Reasonable Steps, Anaconda Copper Mine
102 Birch Drive, Yerington, Nevada
Bona Fide Prospective Purchaser: Singatse Peak Services, LLC

Dear Ms. Consoli:

You have inquired concerning the applicability of the bona fide prospective purchaser provision ("BFPP") in regards to your client's prospective purchase of the Yerington Mine (the "Site"). BFPP is defined in Section 101(40) of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9601(40), and referenced by NRS 459.930(1) (a). As you know, the United States Environmental Protection Agency ("EPA") is the lead regulatory agency for the Yerington Mine cleanup, and the Site is the subject of ongoing investigations and response actions to address hazardous substances remaining from former mining activity. At this time, the Nevada Division of Environmental Protection (NDEP) serves as a supporting agency to EPA at the Site.

Nevada law incorporates CERCLA in regards to the determination of a bona fide prospective purchaser. Specifically, the BFPP provision in NRS 459.930 states that a person that acquires property after July 25, 2003, and who otherwise meets the criteria of 42 U.S.C. § 9601(40) is protected from liability under state laws pertaining to water pollution control (NRS 445A.300 to 445A.730), air pollution (NRS 445B.100 to 445B.640) and hazardous waste disposal (NRS 459.400 to 459.600). To qualify as a BFPP, the Purchaser must, among other requirements, take "reasonable steps" with respect to stopping continuing releases, preventing threatened future releases, and preventing or limiting human, environmental or natural resources exposure to earlier releases. It is our understanding that you have received notice from EPA regarding its requirements to meet the reasonable steps criterion of 42 U.S.C. § 9601 (40), and you now inquire as to what actions should be taken by the Purchaser to satisfy the corresponding criterion under Nevada law. As the supporting agency at the Site, NDEP defers to, and is in agreement with, the management activities identified by EPA. It is our understanding that EPA requires Purchaser to perform the following activities:

(1) Provide twenty-four hour security for the Site to limit access only to authorized personnel, which may include EPA, NDEP, their contractors, or other parties conducting or assisting in response activities. At present, an existing perimeter fence provides reasonable security, and the Purchaser may need only to maintain this fence as an initial matter. Reasonable security requirements may change in accordance with changed circumstances, such as the Purchaser's anticipated expansion of operations at the Site;



- (2) Provide full cooperation, assistance and access for response activities throughout the Site. Response activities are generally planned in advance and can usually be coordinated to limit interference with the Purchaser's operations, as feasible. Some operations may require the cooperation and access necessary for the installation, integrity, operation and maintenance of any complete or partial response actions or natural resource restoration (for example, to accommodate locations of ground water wells);
- (3) Provide for mitigation of dust emissions at the Site to prevent releases or migration of hazardous dusts and provide adequate worker and public safety. EPA, its contractors or other parties conducting or assisting in response activities at the Site will be responsible for mitigating dust emissions created by their respective response activities and for providing adequate safety for their own workers and safety for the public regarding their own activities;
- (4) Provide for proper management, collection, storage and treatment or disposal of produced water containing hazardous substances resulting from Singatse's activities at the Site. EPA, its contractors or other parties conducting or assisting in response activities at the Site will be responsible for the proper collection, storage and treatment or disposal of produced water containing hazardous substances that is generated in the course of their respective response activities;
- (5) Maintain all completed response actions, including maintenance of all covers, caps, sealers or vegetation intended to prevent soil migration or exposure to *in situ* hazardous substances, as identified in the enclosed map (Attachment A), except to the extent that covers, caps, sealers or vegetation intended to prevent soil migration or exposure are disturbed by the activities of EPA, its contractors or other parties conducting or assisting in response activities at the Site; and
- (6) Maintain heap fluid collection systems to prevent further discharges to groundwater (i.e., critical liner repairs) or overflow (i.e., standard operation and maintenance of fluid management system), or as reasonably necessary to mitigate avian access to hazardous fluids. EPA has conducted and are planning to conduct response actions to improve the present conditions of the collection ponds, with the intent of ensuring that existing liners are in good current repair and the fluid management system is more efficient. Singatse may not need to maintain the heap fluid collection systems so long as another party is performing the heap fluid collection system maintenance.

This letter does not provide a release from liability under Nevada environmental laws, but only sets forth the NDEP's understanding of, and agreement with, the reasonable steps EPA has requested of Purchaser based on the information regarding the nature and extent of contamination known to EPA and the NDEP at this time. If additional information regarding the nature and extent of hazardous substance contamination at the Site becomes available, additional actions may be necessary to satisfy the reasonable steps criterion. An owner must be aware of the condition of its property so that the owner is able to take reasonable steps with respect to any hazardous substance contamination at or on the Site. In particular, if new areas of contamination are identified or there is an increase in potential exposure to identified contamination, a BFPP must ensure that further reasonable steps are undertaken to prevent or limit exposure. Please also be

advised that there are separate reporting requirements under Nevada law for discovery of petroleum or hazardous substances and any response actions taken on the property (see NRS 459.930(2)).

Please note that the BFPP provision has a number of conditions in addition to the "reasonable steps." Taking reasonable steps and many of the other conditions are continuing obligations of the bona fide prospective purchaser. You may need to assess whether the Purchaser satisfies each of the statutory conditions for the BFPP provision, including the conduct of "all appropriate inquiry" into the Site conditions prior to the any purchase, and whether it continues to meet the applicable conditions. EPA has provided definition for "all appropriate inquiry" by promulgating 40 C.F.R. Part 312 (Standards and Practices for All Appropriate Inquiries). Other requirements that a BFPP must meet are described in the definition of a BFPP at Section 101(40) (C)-(H), 42 U.S.C. § 9601(40) (C)-(H), and incorporated in NRS 459.930.

Should NDEP's role at the Site change in the future to one of lead agency, please be advised that the NDEP may obtain a lien on the property pursuant to NRS 459.930 (4), to the extent that the NDEP's response action increases the fair market value of the property. The lien is limited to the increase in fair market value, measured at the time of sale or other distribution of the property, attributable to the NDEP's response action up to the sum of NDEP's unrecovered response costs. Once your client has purchased the Site and has determined its ultimate use and interests at the Site, the NDEP is open to negotiating with the Purchaser an administrative order on consent in which the Purchaser would commit to perform additional response activities that may be beyond its obligation for reasonable steps, but in exchange for covenants against further liability, release of the State's lien, and contribution protection as authorized by NRS Chapter 459.

If you have any questions or wish to discuss this matter further, please feel free to contact me at (775) 687-9484. You also may wish to contact Carolyn Tanner, Deputy Attorney General, Nevada Office of the Attorney General at (775)684-1270.

Sincerely,



Jim Najima
Chief
Bureau of Corrective Actions

CC: Leo M. Drozdoff P.E., Administrator
Tom Porta P.E., Deputy Administrator
Carolyn Tanner, DAG, NV Office of the Attorney General
William Frey, SDAG, NV Office of the Attorney General
Joe Sawyer, NDEP
J. Andrew Helmlinger, EPA ORC
David Seter, EPA OSC